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OPEN

## Columellar Wound Immediately After Open Rhinoseptoplasty Treated With Application of DuoDERM Extra Thin

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**Abstract:** Most patients who undergo open rhinoseptoplasty do not develop any wound at the transcolumellar incision site. However, some patients require wound care immediately post-operation. Dressing is difficult to perform in the columellar region because of the location. Here, we report 2 cases of columellar wound as a complication of open rhinoseptoplasty. A patient developed mild wound dehiscence immediately after primary rhinoseptoplasty, whereas another developed partial columellar skin necrosis after the revision operation. We applied DuoDERM Extra Thin dressing (ConvaTec Group, Deeside, UK) for columellar wound and achieved healing. DuoDERM Extra Thin can be a simple and easy dressing material for immediate care of transcolumellar wounds.

**Key Words:** Columellar, dressing, DuoDERM Extra Thin, rhinoplasty, wound healing

For open rhinoseptoplasty, surgeons make a wide transcolumellar incision to obtain a proper surgical view.<sup>1</sup> An inverted-V

incision in the columellar region is commonly made because it can provide a good guide for suture closure and prevent scar formation and notching.<sup>2</sup> However, demerits, such as tip–columellar disharmony, longer surgical time, and scarring, can occur.<sup>3,4</sup> Immediate postoperative wound care is essential for proper esthetic outcomes. However, it is anatomically difficult to apply dressings because the columellar region is narrow, small, and located at the center of the face. Therefore, there is a paucity of studies on immediate postoperative wound care in the columellar area.

Here, we report 2 cases of necrotic columellar wound in the immediate postoperative period that healed well by applying the adhesive hydrocolloid dressing DuoDERM Extra Thin (ConvaTec Group, Deeside, UK). To the best of our knowledge, this is the first report in the English literature on the feasibility of applying a simple and adhesive dressing to columellar wounds.

### CLINICAL REPORT

#### Patient 1

A 21-year-old man presented with complaints of nasal obstruction and mouth breathing. Nasal examination revealed nasal septal deviation to the right side, external deviation to the left side, and a generalized hump. Open rhinoseptoplasty was performed with tip augmentation, spreader grafting, humpectomy, and lateral osteotomy via a transcolumellar inverted-V incision. On postoperative day 7, wound dehiscence occurred in the central portion of the columellar region after stitches were removed. We decided to cover the necrotic area with DuoDERM Extra Thin, a hydrocolloid dressing, at the outpatient clinic (Fig. 1). The hydrocolloid dressing was changed every 3 or 4 days until approximately 3 weeks. The dehiscence gradually resolved after DuoDERM Extra Thin application, but hyperpigmentation persisted for 6 months (Fig. 2).

#### Patient 2

A 24-year-old man had a deviated nasal septum and nasal obstruction. Rhinoseptoplasty was performed under general anesthesia in a similar fashion combined with a septal extension graft and columellar strut as for patient 1. Immediately post-operation, however, revision surgery was planned because of the excessively rotated nasal tip. The revision surgery was performed with removal of the augmented tip-onlay grafts and additional shield and back-stop grafts with no complications. On postoperative day 5, mild dehiscence with no signs of infection was noted. We

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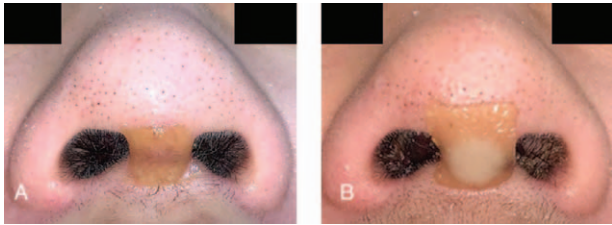
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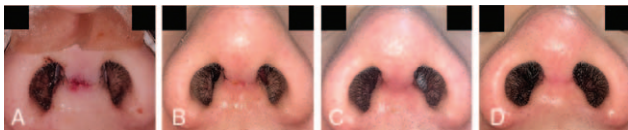
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**FIGURE 1.** Application of DuoDERM Extra Thin on the columellar wound (A). Occlusive hydrocolloid dressing has occurred in 2 to 3 days (B).



**FIGURE 2.** Clinical photograph showing wound dehiscence on the columella after primary rhinoseptoplasty on postoperative day 7 (A). Gradual resolution of wound necrosis and dehiscence observed on postoperative days 30, 60 and 180 (B, C and D).



**FIGURE 3.** Clinical photograph showing wound dehiscence on the columella after revision rhinoseptoplasty on postoperative day 10 (A). Gradual resolution of wound necrosis and erythema observed on postoperative days 40, 70 and 150 (B, C and D).

planned to apply DuoDERM Extra Thin to the columellar wound in the same fashion as for the previous patient. On the following day, wound healing was observed without performing any other procedure. At the 5-month follow-up, mild erythema and pigmentation were noted (Fig. 3).

## DISCUSSION

Most surgical wounds are treated using gauze dressings postoperatively.<sup>5</sup> In contrast, it is difficult to apply classic dressing methods for columellar wounds after open rhinoseptoplasty because of its location. Favorably, most patients do not develop wounds at the transcolumellar incision site after open rhinoseptoplasty. Kim et al<sup>6</sup> reported that surgeons should not feel discouraged over concerns regarding incision scars. However, rhinoplasty surgeons can encounter some cases of wound dehiscence or even skin necrosis immediately after removing stitches. Foda et al<sup>7</sup> performed a columellar scar analysis of patients who underwent external rhinoseptoplasty. They reported 1.5% of the cases as “unacceptable” subjectively and 7% of cases as “unsatisfactory” objectively. In cases of wounds, early salvage treatment is essential for preventing scar formation and poor esthetic outcomes. In our reported cases, one patient developed columellar wound dehiscence immediately after stitches of primary open rhinoseptoplasty were removed, whereas the other patient developed a necrotic columellar wound after the revision surgery, which might have originated from excessive skin manipulation.

DuoDERM Extra Thin has been widely used in various surgical wounds. It is a type of hydrocolloid dressing that provides humidity to the tissues and stimulates angiogenesis, thereby accelerating wound healing.<sup>8,9</sup> The outer layer of DuoDERM Extra Thin contains polyurethane and the inner layer contains gelatin, pectin,

and sodium carboxymethylcellulose.<sup>10</sup> It is suitable for use at the outpatient clinic because it can be applied for several days and avoids unnecessary dressing changes.<sup>5</sup> Moreover, it is characterized by small size, color resemblance with the skin, and easy attachment to the facial skin. Washing and showering are practical with DuoDERM Extra Thin because of the secure, water-resistant, and occlusive sealing characteristics. Therefore, it is primarily indicated for superficial dermal ulcers and pressure sores.<sup>8</sup> In the present study, the patients underwent approximately 3 dressing changes at the outpatient clinic for 1 month and showed favorable healing without additional surgical treatments on columellar wound development. In contrast, there are some demerits to the facial usage with DuoDERM Extra Thin. Suhng et al<sup>10</sup> reported a case of allergic contact dermatitis caused by DuoDERM Extra Thin. They stated that colophonium as a tackifying agent caused allergic skin reactions and that physicians should pay attention for the occurrence of this side effect. Moisturization with wound occlusion is critical for wound healing, as it can cause epithelial migration and neovascularization.<sup>8</sup> Alternatives to hydrocolloid dressing for moisture retention include a thin absorbent skin adhesive and absorbent acrylic dressing.<sup>11</sup> They have the merits of visualization of the wound status and avoidance of unnecessary dressing changes. However, there is a paucity of studies on their application for facial wounds, particularly at the transcolumellar incision site.

The present patients developed wound necrosis at the columellar incision site, which healed later. However, columellar wounds would have worsened and additional surgical manipulation might have been required if no immediate salvage treatment of the hydrocolloid dressing was performed. The pigmentation may reduce in the long term as well. A minor procedure, such as laser therapy, might be helpful for persistent hyperpigmentation. We suggest DuoDERM Extra Thin as an alternative salvage option for surgical wounds immediate after transcolumellar rhinoseptoplasty. This simple dressing has merits of proper wound quality and patient convenience.

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